

CLAIMS

1 1. A surgical device for treating urinary incontinence, comprising:
2 a curved needle including a distal end and a proximal end;
3 a dilator including a distal end and a proximal end, wherein the distal end of the
4 dilator is coupled to the proximal end of the curved needle;
5 a sling including a distal end and a proximal end, wherein the distal end of the
6 sling is coupled to the proximal end of the dilator.

1 2. The surgical device of claim 1 wherein the curved needle includes a curvature
2 sufficient to allow the needle to enter a body through a vaginal cavity, pass to a side of a
3 urethra, continue over an anterior side of the urethra, and exit the body on an opposite
4 side of the urethra.

1 3. The surgical device of claim 1 wherein the dilator is substantially flat and
2 triangular in shape.

1 4. The surgical device of claim 1 wherein the dilator is substantially rectangular and
2 tapered at the distal end.

1 5. The surgical device of claim 1 wherein the dilator comprises a marking to indicate
2 a location of the sling in a body.

1 6. The surgical device of claim 1 wherein the sling comprises a material selected
2 from the group consisting of a natural material, a synthetic material, and a combination of
3 a natural material and a synthetic material.

1 7. The surgical device of claim 1 wherein the sling is about 1 centimeter to about 3
2 centimeters in width.

1 8. The surgical device of claim 1 further comprising a tether coupling the curved
2 needle to the dilator, wherein the tether is selected from the group consisting of a wire, a
3 suture, and a portion of the sling.

1 9. The surgical device of claim 1 wherein the sling includes a first portion, a middle
2 portion, and a second portion, the first portion of the sling being smaller in width than the
3 middle portion of the sling.

1 10. The surgical device of claim 9 wherein the first portion of the sling couples the
2 sling to the dilator.

1 11. The surgical device of claim 9 wherein the first portion of the sling couples the
2 dilator to the needle.

1 12. The surgical device of claim 1 further comprising a pouch attached to the dilator.

1 13. The surgical device of claim 1 further comprising a pouch releasably attached to
2 the sling.

1 14. The surgical device of claim 1 further comprising a stiffener to maintain the sling
2 in a generally planar orientation as the sling is passed through a body.

1 15. A surgical device for treating urinary incontinence comprising:
2 a sling including a distal end and a proximal end;
3 a first tether including a distal end and a proximal end, wherein the proximal end
4 of the first tether is coupled to the distal end of the sling;
5 a second tether including a distal end and a proximal end, wherein the distal end
6 of the second tether is coupled to the proximal end of the sling;
7 a curved needle coupled to the distal end of the first tether; and
8 a dilator disposed along the first tether between the curved needle and the distal
9 end of the sling.

1 16. A method of treating urinary incontinence, comprising:
2 a) introducing a sling into a body; and
3 b) positioning the sling on an anterior side of a urethra to coapt the urethra
4 against a vaginal wall.

1 17. The method of claim 16 wherein the positioning step comprises positioning the
2 sling to surround less than 360° of the circumference of the urethra.

1 18. The method of claim 16 wherein the introducing step comprises introducing the
2 sling into the body via a vaginal cavity and through the vaginal wall.

1 19. The method of claim 16 further comprising the step of separating the anterior of
2 the urethra from surrounding tissue.

1 20. The method of claim 19 wherein the separating step comprises using
2 hydrodissection or balloon dissection.

1 21. The method of claim 16 wherein the introducing step comprises:
2 introducing a surgical device into the body via a vaginal cavity and through a
3 vaginal wall to pass to one side of the urethra, passing the surgical device about
4 the anterior side of the urethra, and removing at least a portion of the surgical
5 device from the body on the other side of the urethra back into the vaginal cavity,
6 wherein the surgical device comprises:
7 a curved needle including a distal end and a proximal end;

8 a dilator including a distal end and a proximal end, wherein the distal end
9 of the dilator is coupled to the proximal end of the curved needle; and
10 a sling including a distal end and a proximal end, wherein the distal end of
11 the sling is coupled to the proximal end of the dilator.

1 22. A method of treating urinary incontinence comprising the steps of:

2 a) introducing a surgical device into a body via a vaginal cavity, the surgical
3 device comprising:

4 a sling including a distal end and a proximal end;
5 a first tether including a distal end and a proximal end, wherein the
6 proximal end of the first tether is coupled to a distal end of the sling;
7 a second tether including a distal end and a proximal end, wherein the
8 distal end of the second tether is coupled to a proximal end of the sling;
9 a curved needle coupled to the distal end of the first tether; and

10 a dilator disposed along the first tether between the curved needle and the
11 distal end of the sling;
12 b) passing the curved needle into the body via the vaginal cavity, through a
13 vaginal wall to one side of a urethra, over an anterior portion of the urethra, and
14 out of the body on the other side of the urethra into the vaginal cavity creating a
15 path for the first tether, the dilator, the sling, and the second tether to follow;
16 c) advancing the dilator along the path to position the sling about the urethra and
17 leaving at least a portion of the second tether in the vaginal cavity;
18 d) removing the dilator and at least a portion of the first tether from the body into
19 the vaginal cavity and positioning the sling about the anterior portion of the
20 urethra to coapt the urethra against an anterior portion of the vaginal wall; and
21 e) securing the first tether and second tether to an interior wall of the vaginal
22 cavity.

1 23. The method of claim 22 further comprising separating the anterior portion of the
2 urethra from surrounding tissue.

1 24. A surgical device for treating urinary incontinence, comprising:
2 a needle comprising a curved portion;
3 a dilator coupled to an end of the needle; and
4 a sling coupled to an end of the dilator.

1 25. The surgical device of claim 24, wherein the dilator comprises a tapered leading
2 edge.

1 26. The surgical device of claim 24, wherein the dilator is substantially cylindrical
2 and tapered at one end.

1 27. The surgical device of claim 24, wherein an outer circumference of the dilator
2 increases from a first end of the dilator towards a second end of the dilator.

1 28. The surgical device of claim 24, wherein a width of the dilator increases from a
2 first end of the dilator towards a second end of the dilator.

- 1 29. The surgical device of claim 28, wherein the dilator is about 1 centimeter to about
- 2 4 centimeters in width at the second end of the dilator.
- 1 30. The surgical device of claim 24, wherein a width of the dilator is larger than a
- 2 width of the needle.
- 1 31. The surgical device of claim 24, wherein the sling comprises a material selected
- 2 from the group consisting of a natural material, a synthetic material, and a combination of
- 3 a natural material and a synthetic material.
- 1 32. The surgical device of claim 24, wherein the sling is about 1 centimeter to about 3
- 2 centimeters in width.
- 1 33. The surgical device of claim 24 further comprising a tether, wherein the tether
- 2 couples the needle to the dilator.
- 1 34. The surgical device of claim 33, wherein the tether is selected from the group
- 2 consisting of a wire, a suture, and a portion of the sling.
- 1 35. The surgical device of claim 24 further comprising a pouch attached to the dilator.
- 1 36. The surgical device of claim 24 further comprising a pouch releasably attached to
- 2 the sling.
- 1 37. The surgical device of claim 24 further comprising a pouch, wherein the sling is
- 2 encapsulated within the pouch.
- 1 38. The surgical device of claim 37, wherein the pouch is made of a low friction
- 2 material.
- 1 39. The surgical device of claim 37, wherein the pouch is substantially flat.
- 1 40. The surgical device of claim 37, wherein the pouch is translucent.
- 1 41. A surgical device for treating urinary incontinence, comprising:
2 an elongated member comprising a curved portion;

3 a second member, coupled to an end of the elongated member, for enlarging an
4 opening in a body; and
5 an implant coupled to an end of the second member.

1 42. The surgical device of claim 41, wherein the second member is substantially
2 cylindrical and tapered at one end.

1 43. The surgical device of claim 41, wherein an outer circumference of the second
2 member increases from a first end of the second member towards a second end of the
3 second member.

1 44. The surgical device of claim 41, wherein a width of the second member increases
2 from a first end of the second member towards a second end of the second member.

1 45. The surgical device of claim 41, wherein a width of the second member is larger
2 than a width of the elongated member.

1 46. The surgical device of claim 41, wherein the implant comprises a material
2 selected from the group consisting of a natural material, a synthetic material, and a
3 combination of a natural material and a synthetic material.

1 47. The surgical device of claim 41, wherein the implant is about 1 centimeter to
2 about 3 centimeters in width.

1 48. The surgical device of claim 41 further comprising a tether, wherein the tether
2 couples the elongated member to the second member.

1 49. The surgical device of claim 48, wherein the tether is selected from the group
2 consisting of a wire, a suture, and a portion of the implant.

1 50. The surgical device of claim 41 further comprising a pouch attached to the second
2 member.

1 51. The surgical device of claim 41 further comprising a pouch, wherein the implant
2 is encapsulated within the pouch.

1 52. The surgical device of claim 51, wherein the pouch is made of a low friction
2 material.

1 53. The surgical device of claim 51, wherein the pouch is substantially flat.

1 54. The surgical device of claim 51, wherein the pouch is translucent.

1 55. The surgical device of claim 41, wherein the elongated member comprises a
2 needle.

1 56. A surgical device for treating urinary incontinence, comprising:
2 means for creating a path through a body of a patient;
3 means for enlarging the path created through the body of the patient, the means
4 for enlarging the path coupled to the means for creating the path; and
5 a sling coupled to the means for enlarging the path.